

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Fidelity Exploration and Production Company

Well Name/Number: Fee/Schmidt 44-27H

Location: SE SE Section 27 T11N R33E

County: Rosebud, MT; Field (or Wildcat) W/C

Air Quality

(possible concerns)

Long drilling time: No, 15 to 20 days drilling time.

Unusually deep drilling (high horsepower rig): No, a triple drilling rig to drill a vertical pilot hole to the Otter Formation. Then plug back and drill to 9,438' MD/4965' TVD single lateral horizontal Heath Formation well test.

Possible H₂S gas production: Slight H₂S possible.

In/near Class I air quality area: No class I air quality area.

Air quality permit for flaring/venting (if productive) Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: No special concerns – using a triple drilling rig to drill a vertical pilot hole to the Otter Formation. Then plug back and drill a 9,438' MD/4965' TVD single lateral horizontal Heath Formation well test.

Water Quality

(possible concerns)

Salt/oil based mud: No, surface hole will be drilled with freshwater. Main hole will be drilled with freshwater and freshwater drilling mud. Horizontal lateral will be drilled with freshwater mud system.

High water table: No high water table in the area of review.

Surface drainage leads to live water: No, closest drainages are unnamed ephemeral tributary drainage to Rattlesnake Creek, also an ephemeral drainage, about 1/4 of a mile to the northwest and southwest from this location. These ephemeral drainages have stock ponds in them.

Water well contamination: No water well within 1 mile and further from this location. This well will drill and set 9 5/8" surface casing to 500' and cement to surface. Well will be drill with freshwater based drilling fluids from base of surface casing to pilot hole TD of 5,262' TD, into the Otter Formation. Well will be plugged back and kicked off into the Heath Formation. 7" intermediate string will be set and cemented through the curve. A 6 1/8" hole will be drilled with freshwater in the horizontal lateral and 4 1/2" casing run.

Porous/permeable soils: No, silty "Gumbo" clay soils.

Class I stream drainage: No Class I stream drainages.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

- ☐ Berms/dykes, re-routed drainage
- ☐ Closed mud system
- ☐ Off-site disposal of solids/liquids (in approved facility)
- ☐ Other: _____

Comments: Freshwater mud system to be used on surface hole. Freshwater mud system to be used out from under surface casing to 5,262' TD pilot hole. Freshwater drilling fluids will be used to drill the horizontal lateral to 9438' MD/4964' TVD. Fluids in the lined reserve pit will be trucked to a permitted Class II Disposal. Pit will be allowed to dry and then backfilled with at least 4' of cover. No concerns.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No live water stream crossings. Crossing only ephemeral drainages.
 High erosion potential: No, moderate cut, up to 10.4' and small fill, up to 8.9', required.
 Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, a large location, 420X420' size required.

Damage to improvements: Slight, surface use is grass and sagebrush range land.

Conflict with existing land use/values: Slight

Mitigation

- ☐ Avoid improvements (topographic tolerance)
- ☐ Exception location requested
- ☒ Stockpile topsoil
- ☐ Stream Crossing Permit (other agency review)
- ☒ Reclaim unused part of wellsite if productive
- ☐ Special construction methods to enhance reclamation
- ☒ Other Requires DEQ General Permit for Storm Water Discharge Associated

with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be from existing county road, Sumatra Road, About 1/8 of a mile of new road will be constructed into this location. Freshwater drill cuttings and mud solids will be buried in the lined pit. Lined pit will backfilled with 4' of cover when dry. Drilling fluids will be trucked to a Class II Disposal. No concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: No residences within 1 mile of this location.

The town of Sumatra, Montana is about 4.5 miles to the south from this location.

Possibility of H2S: Yes, slight chance of H2S.

Size of rig/length of drilling time: Triple derrick drilling rig, about 15 to 20 days drilling time.

Mitigation:

- ☒ Proper BOP equipment
- ☐ Topographic sound barriers
- ☐ H2S contingency and/or evacuation plan
- ☐ Special equipment/procedures requirements
- ☐ Other: _____

Comments: Operational BOP and adequate surface casing should mitigate any problems. No concerns.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Threatened or endangered species identified in this county are the Pallid Sturgeon, Interior Least Tern and the Black-Footed Ferret.

Candidate species is the Greater Sage Grouse and Sprague's Pipit. NH tracker website lists the following "Species of Concern" in T11N R33E: Black-tailed Prairie Dog, Greater Sage Grouse and Brewers Sparrow.

Mitigation:

___ Avoidance (topographic tolerance/exception)

___ Other agency review (DFWP, federal agencies, DSL)

___ Screening/fencing of pits, drillsite

___ Other: _____

Comments: Private surface grazing land. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified.

Mitigation

___ avoidance (topographic tolerance, location exception)

___ other agency review (SHPO, DSL, federal agencies)

___ Other: _____

Comments: Private surface grazing land. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)

___ Substantial effect on tax base

___ Create demand for new governmental services

___ Population increase or relocation

Comments: Well is a wildcat, until production is established, no social or economic impact can be assessed.

Remarks or Special Concerns for this site

Well is to be drilled vertical pilot hole to the Otter Formation. Then plug back and drill to 9,438'MD/4965' TVD single lateral horizontal Heath Formation well test.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki
(title:) Chief Field Inspector
Date: November 22, 2011

Other Persons Contacted:

Montana Bureau of Mines and Geology GWIC website

(Name and Agency)

Rosebud County water wells

(subject discussed)

November 22, 2011

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES

MONTANA COUNTIES, Rosebud County

(subject discussed)

November 22, 2011

(date)

Montana Natural Heritage Program Website (FWP)

(Name and Agency)

Heritage State Rank= S1, S2, S3, T11N R33E

(subject discussed)

November 22, 2011

(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____